09960 "E6E9960

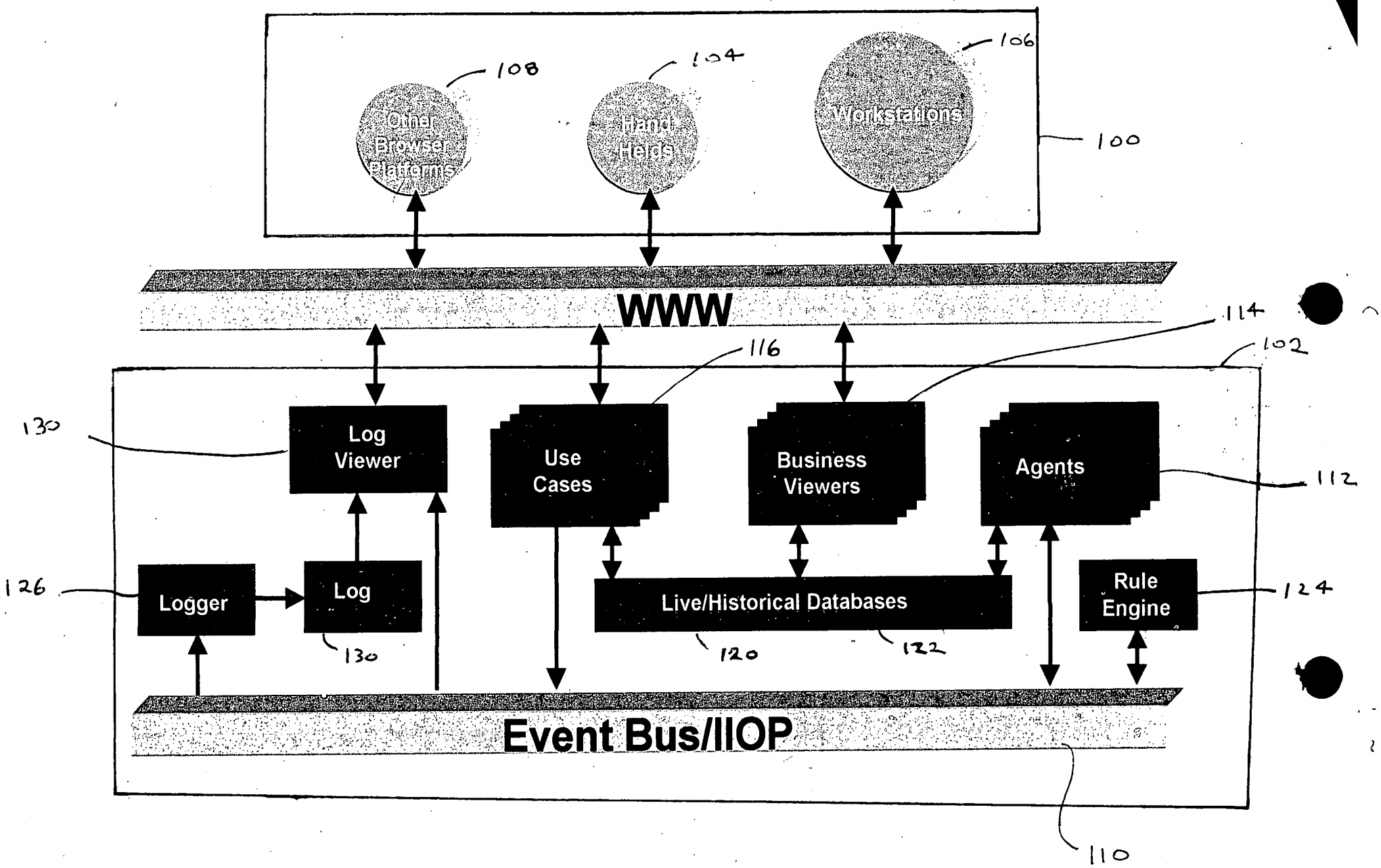

FIG.1

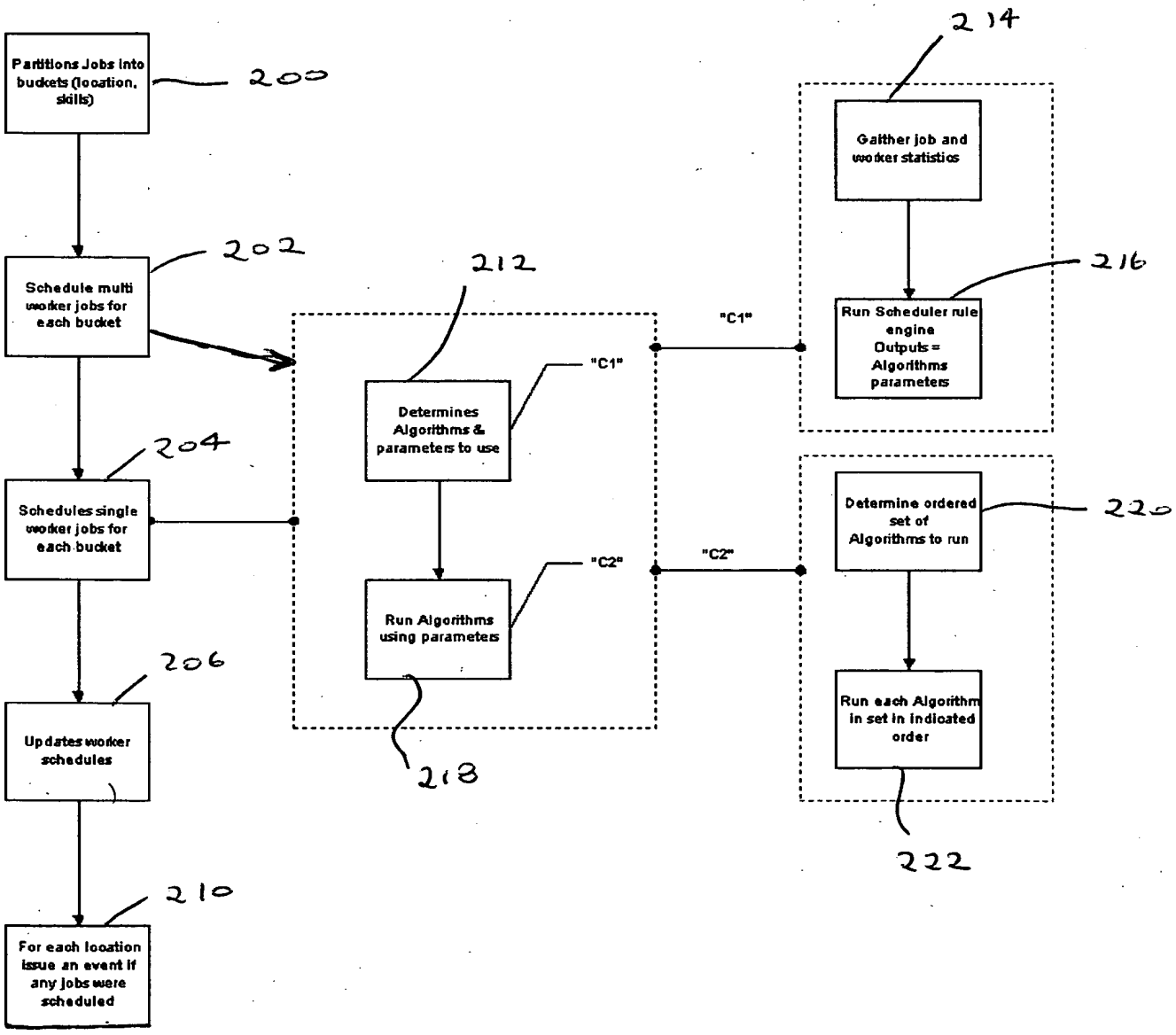
Partitions Jobs into buckets (location, skills)
200
Schedule multi worker jobs for each bucket
202
Schedules single worker jobs for each bucket
204
Updates worker schedules
206
For each location issue an event if any jobs were scheduled
210
212
Determines Algorithms & parameters to use
"C1"
Run Algorithms using parameters
"C2"
218
"C1"
"C2"
214
Gather job and worker statistics
Run Scheduler rule engine Outputs = Algorithms parameters
216
Determine ordered set of Algorithms to run
220
Run each Algorithm in set in indicated order
222

FIG. 2

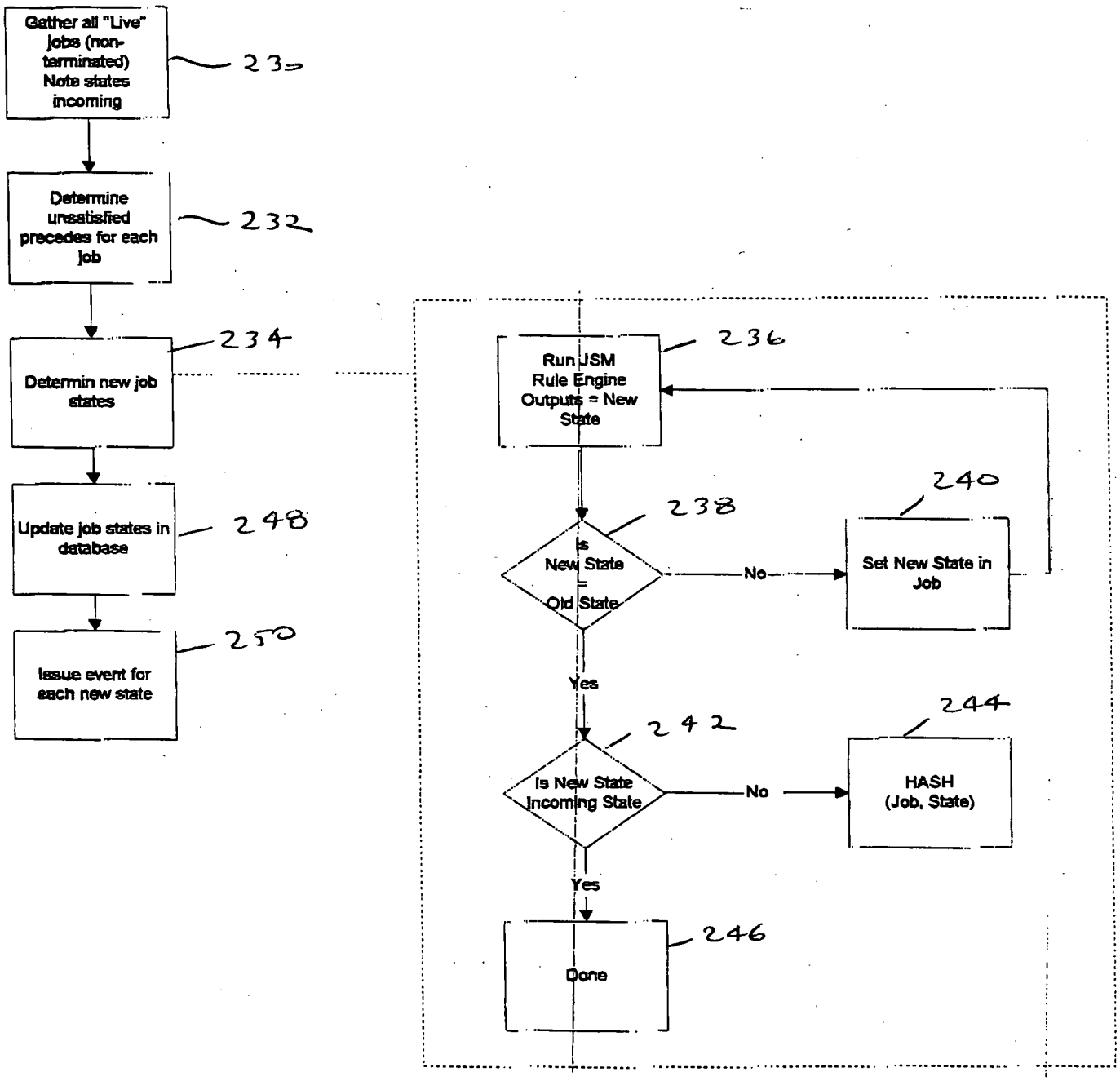
Gather all "Live" jobs (non-terminated) Note states incoming
230
Determine unsatisfied precedes for each job
232
Determin new job states
234
Update job states in database
248
Issue event for each new state
250
Run JSM Rule Engine Outputs = New State
236
Is New State = Old State
238
No
Set New State in Job
240
Yes
Is New State Incoming State
242
No
HASH (Job, State)
244
Yes
Done
246

FIG. 3

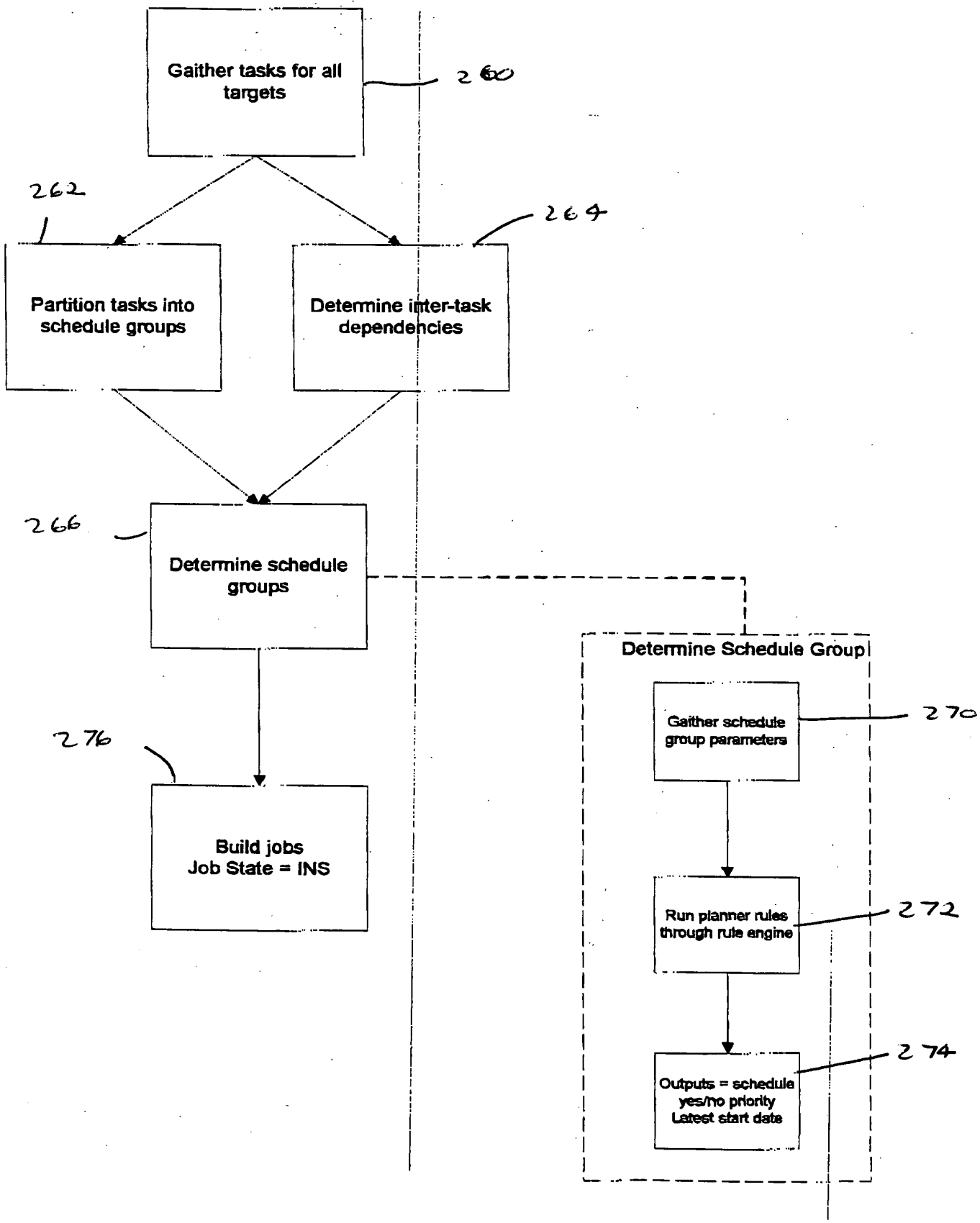
Gaither tasks for all targets
260
262
264
Partition tasks into schedule groups
Determine inter-task dependencies
266
Determine schedule groups
Determine Schedule Group
Gaither schedule group parameters
270
Run planner rules through rule engine
272
Outputs = schedule yes/no priority Latest start date
274
276
Build jobs
Job State = INS

FIG. 4

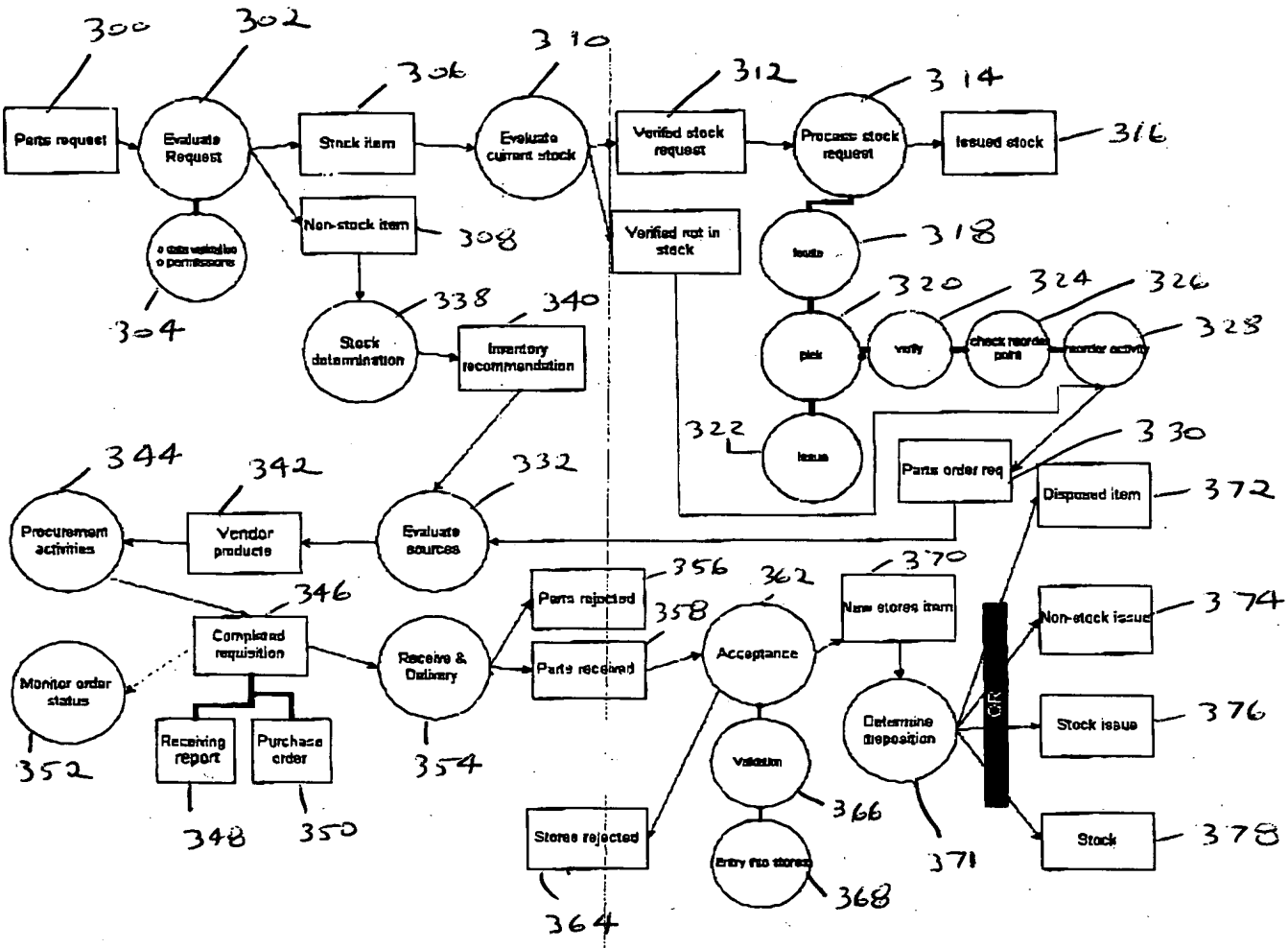
300
302
306
310
312
314
316
Parts request
Evaluate Request
Stock item
Evaluate current stock
Verified stock request
Process stock request
Issued stock
Non-stock item
308
Verified not in stock
Issue
318
304
338
340
320
324
326
328
Stock determination
Inventory recommendation
pick
verify
check reorder point
reorder activity
322
Issue
330
Parts order req
Disposed item
372
344
342
332
Procurement activities
Vendor products
Evaluate sources
346
356
362
370
Parts rejected
New stores item
Completed requisition
358
Receive & Delivery
Parts received
Acceptance
Non-stock issue
374
Monitor order status
Determine disposition
CR
Stock issue
376
Receiving report
Purchase order
Validation
366
Stores rejected
Entry into stores
Stock
378
352
348
350
354
364
368
371

FIG. 5

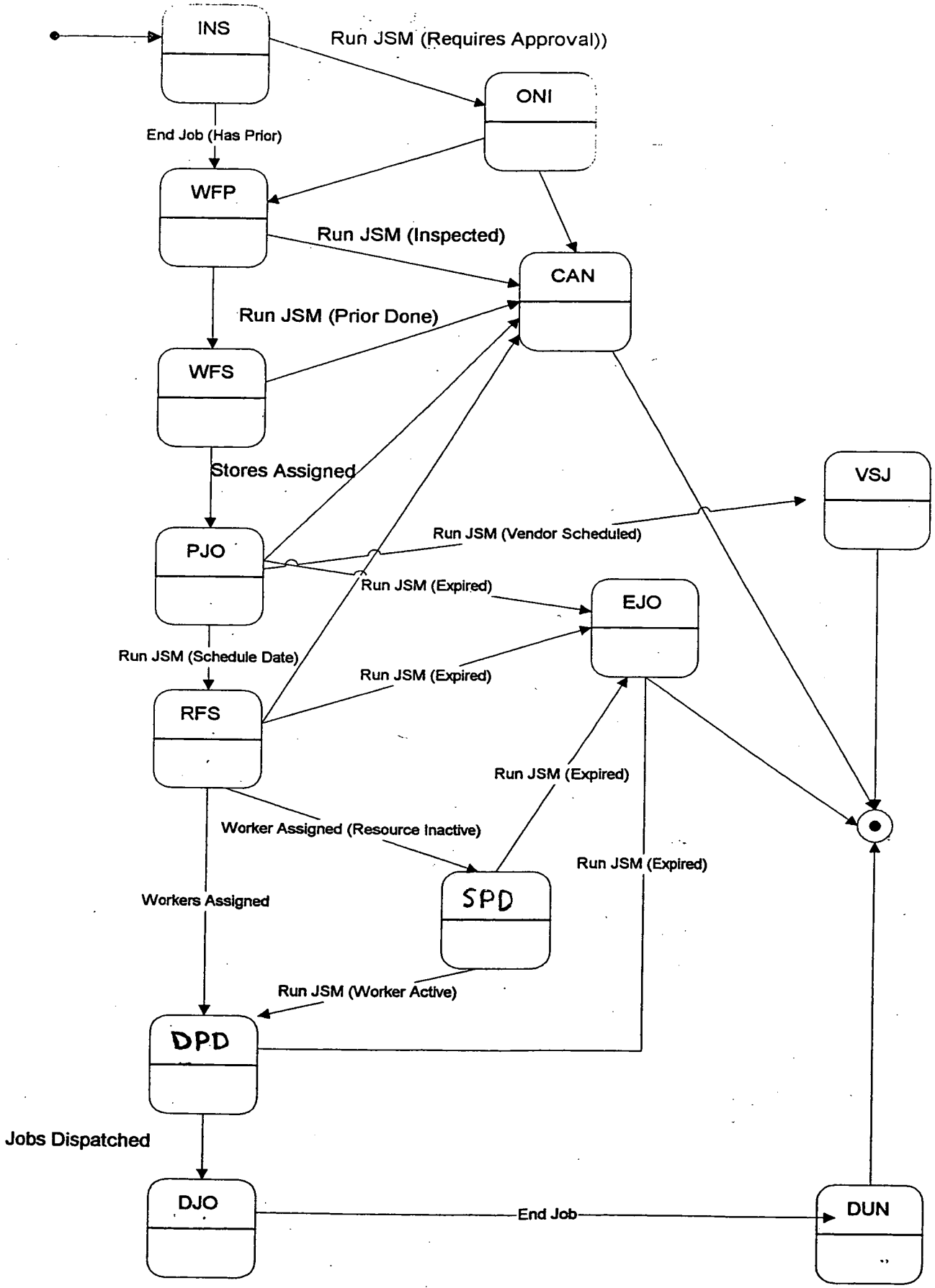
INS
Run JSM (Requires Approval))
ONI
End Job (Has Prior)
WFP
Run JSM (Inspected)
CAN
Run JSM (Prior Done)
WFS
Stores Assigned
VSJ
PJO
Run JSM (Vendor Scheduled)
Run JSM (Expired)
EJO
Run JSM (Schedule Date)
Run JSM (Expired)
RFS
Run JSM (Expired)
Worker Assigned (Resource Inactive)
Run JSM (Expired)
Workers Assigned
SPD
Run JSM (Worker Active)
DPD
Jobs Dispatched
DJO
End Job
DUN

FIG. 6

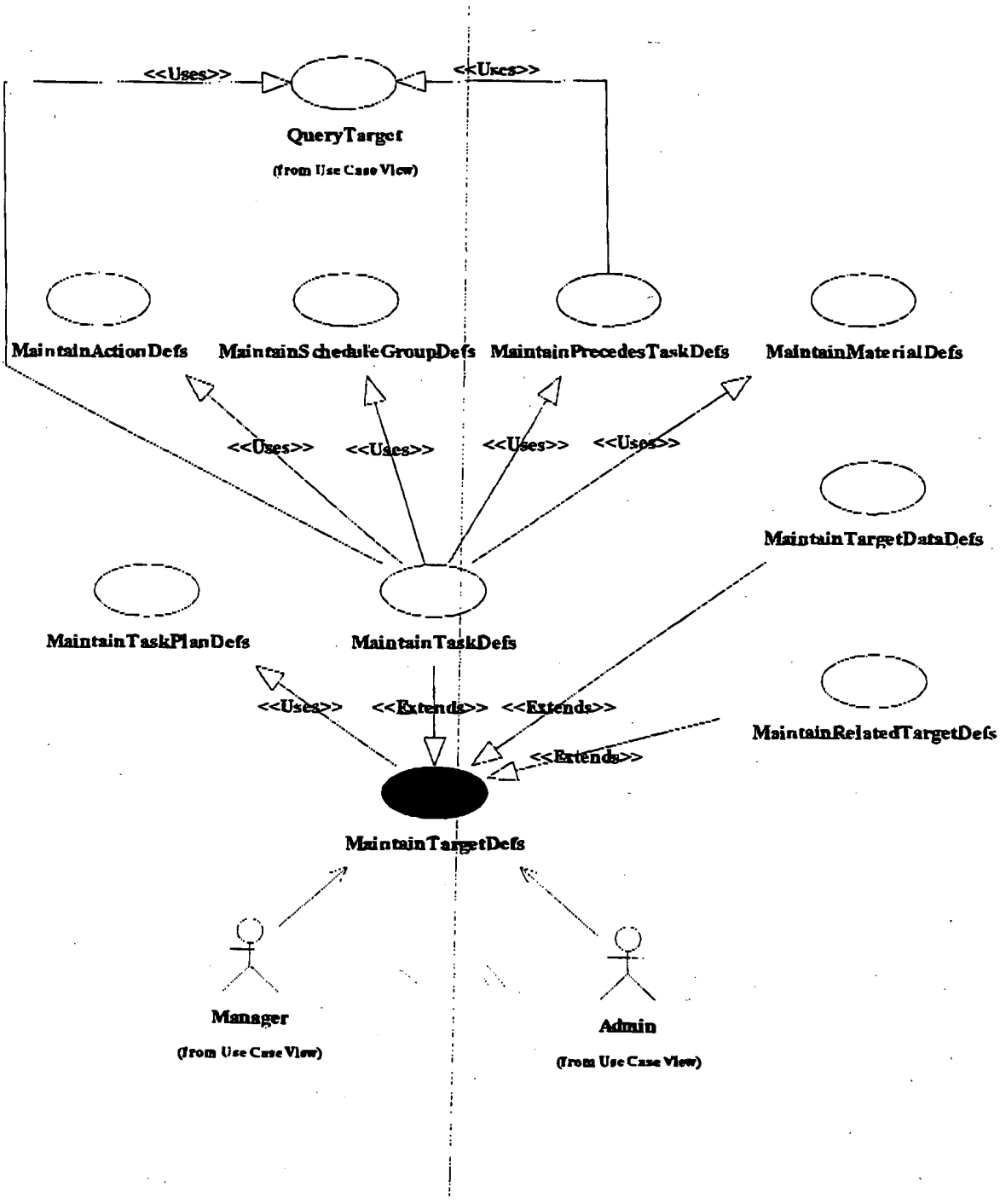
<<Uses>>
<<Uses>>
QueryTarget
(from Use Case View)
MaintainActionDefs
MaintainScheduleGroupDefs
MaintainPrecedesTaskDefs
MaintainMaterialDefs
<<Uses>>
<<Uses>>
<<Uses>>
<<Uses>>
MaintainTargetDataDefs
MaintainTaskPlanDefs
MaintainTaskDefs
<<Uses>>
<<Extends>>
<<Extends>>
MaintainRelatedTargetDefs
<<Extends>>
MaintainTargetDefs
Manager
(from Use Case View)
Admin
(from Use Case View)

FIG. 7

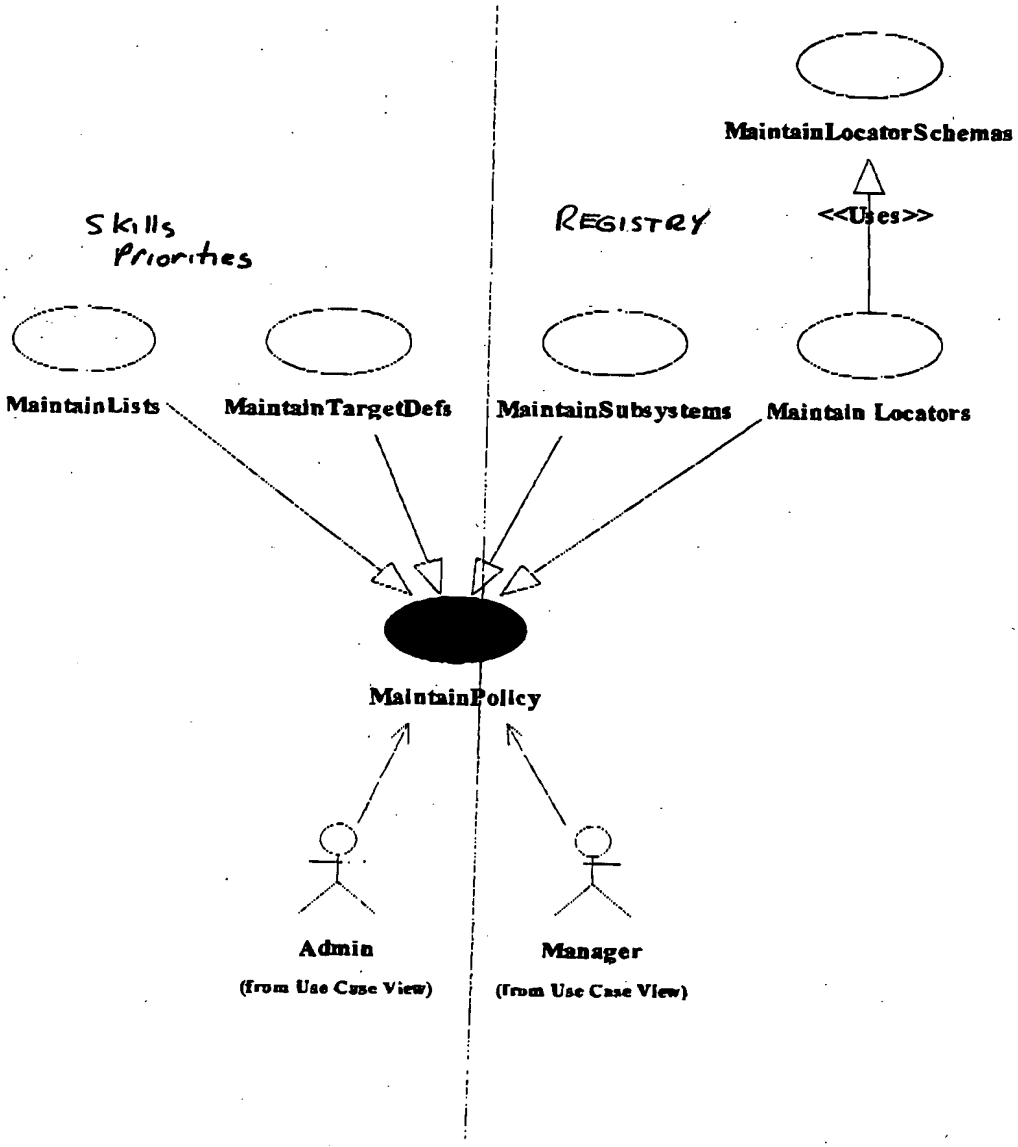
MaintainLocatorSchemas
Skills
Priorities
REGISTRY
<<Uses>>
MaintainLists
MaintainTargetDefs
MaintainSubsystems
Maintain Locators
MaintainPolicy
Admin
(from Use Case View)
Manager
(from Use Case View)

FIG. 8

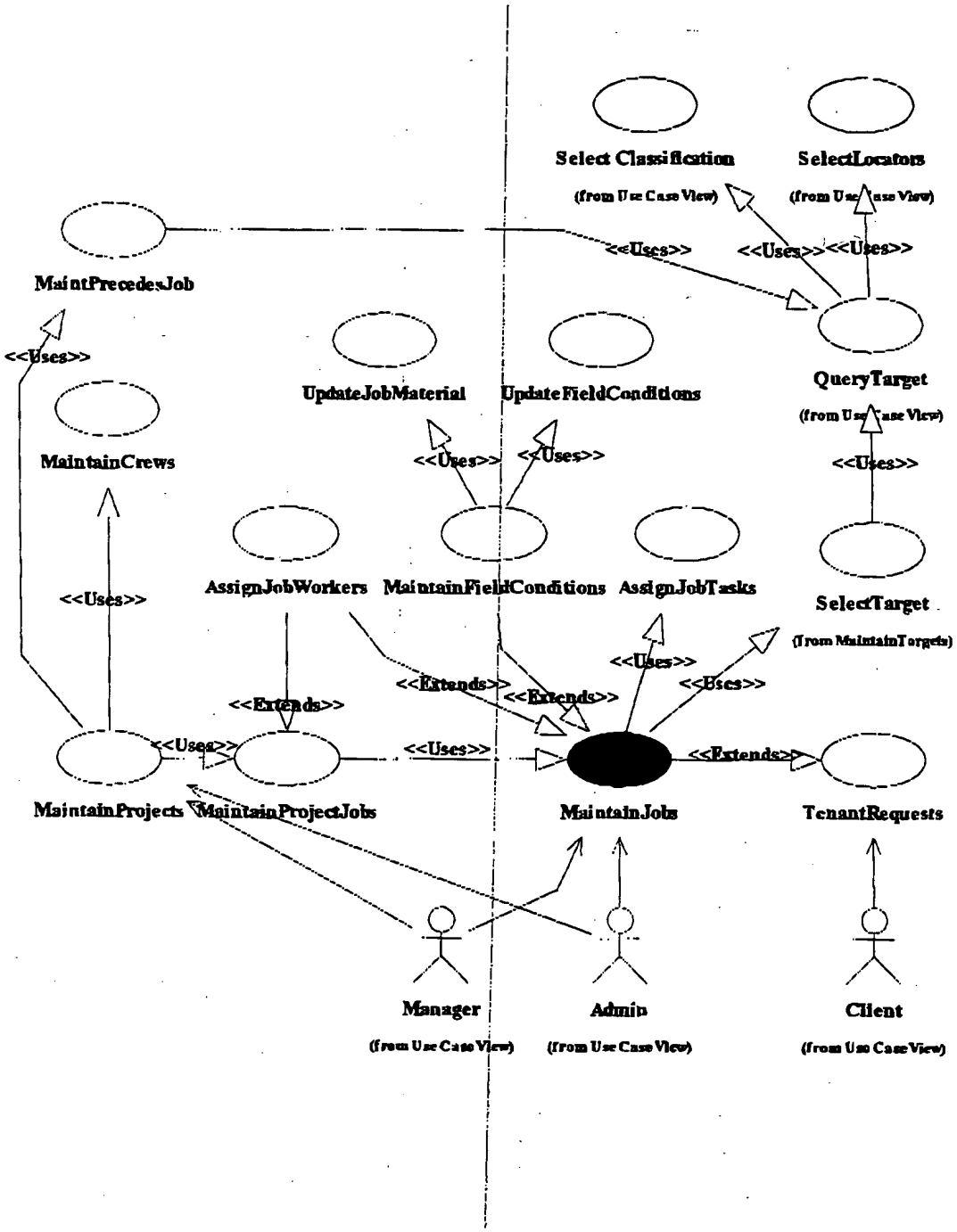
Select Classification
(from Use Case View)
SelectLocators
(from Use Case View)
<<Uses>>
<<Uses>>
<<Uses>>
MaintPrecedesJob
<<Uses>>
UpdateJobMaterial
UpdateFieldConditions
QueryTarget
(from Use Case View)
MaintainCrews
<<Uses>>
<<Uses>>
<<Uses>>
AssignJobWorkers
MaintainFieldConditions
AssignJobTasks
SelectTarget
(from MaintainTargets)
<<Uses>>
<<Uses>>
<<Extends>>
<<Extends>>
<<Extends>>
<<Uses>>
<<Uses>>
<<Uses>>
<<Extends>>
MaintainProjects
MaintainProjectJobs
MaintainJobs
TenantRequests
Manager
(from Use Case View)
Admin
(from Use Case View)
Client
(from Use Case View)

FIG. 9

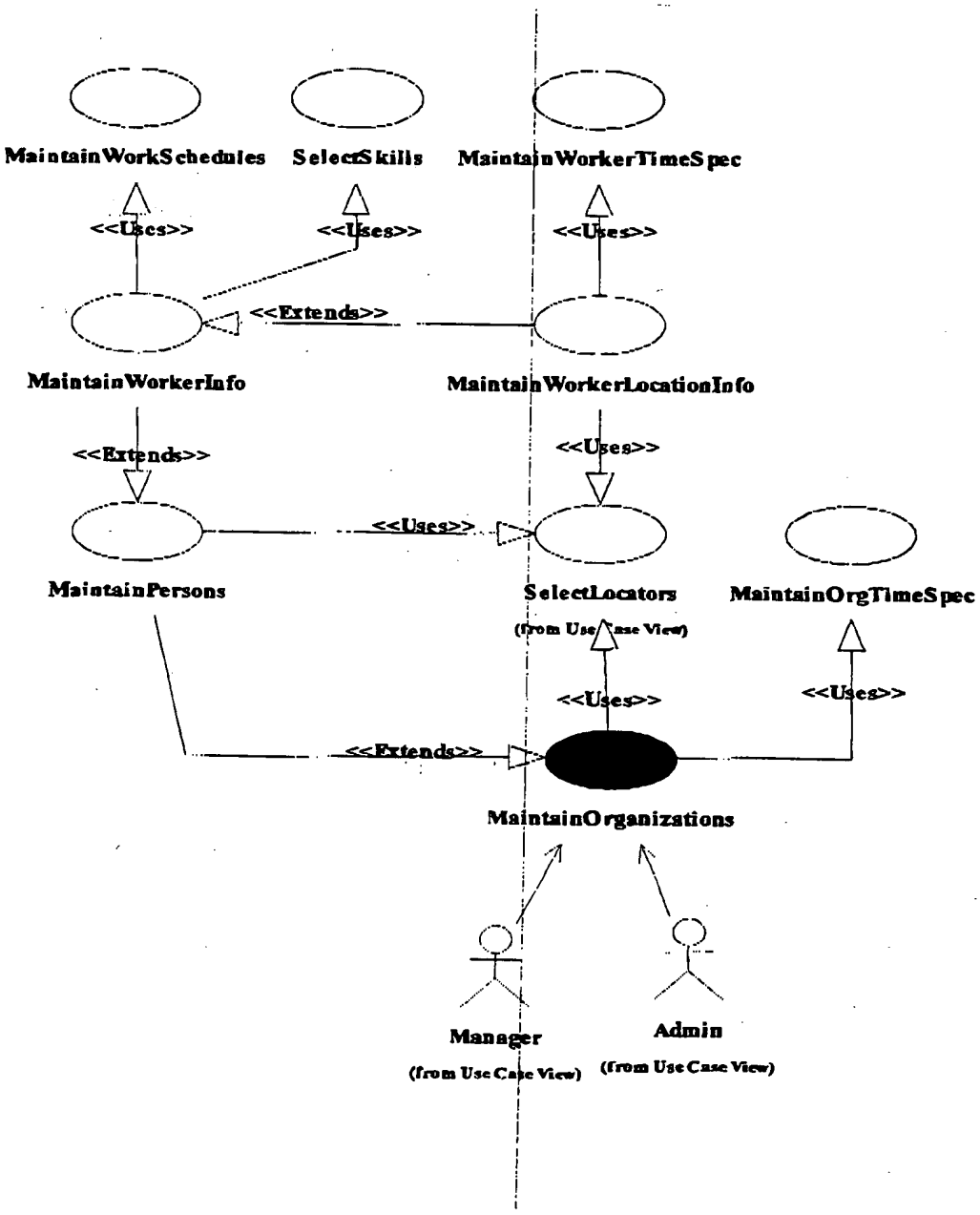
MaintainWorkSchedules
SelectSkills
MaintainWorkerTimeSpec
<<Uses>>
<<Uses>>
<<Uses>>
<<Extends>>
MaintainWorkerInfo
MaintainWorkerLocationInfo
<<Extends>>
<<Uses>>
<<Uses>>
MaintainPersons
SelectLocators
(from Use Case View)
MaintainOrgTimeSpec
<<Uses>>
<<Uses>>
<<Extends>>
MaintainOrganizations
Manager
(from Use Case View)
Admin
(from Use Case View)

FIG. 10

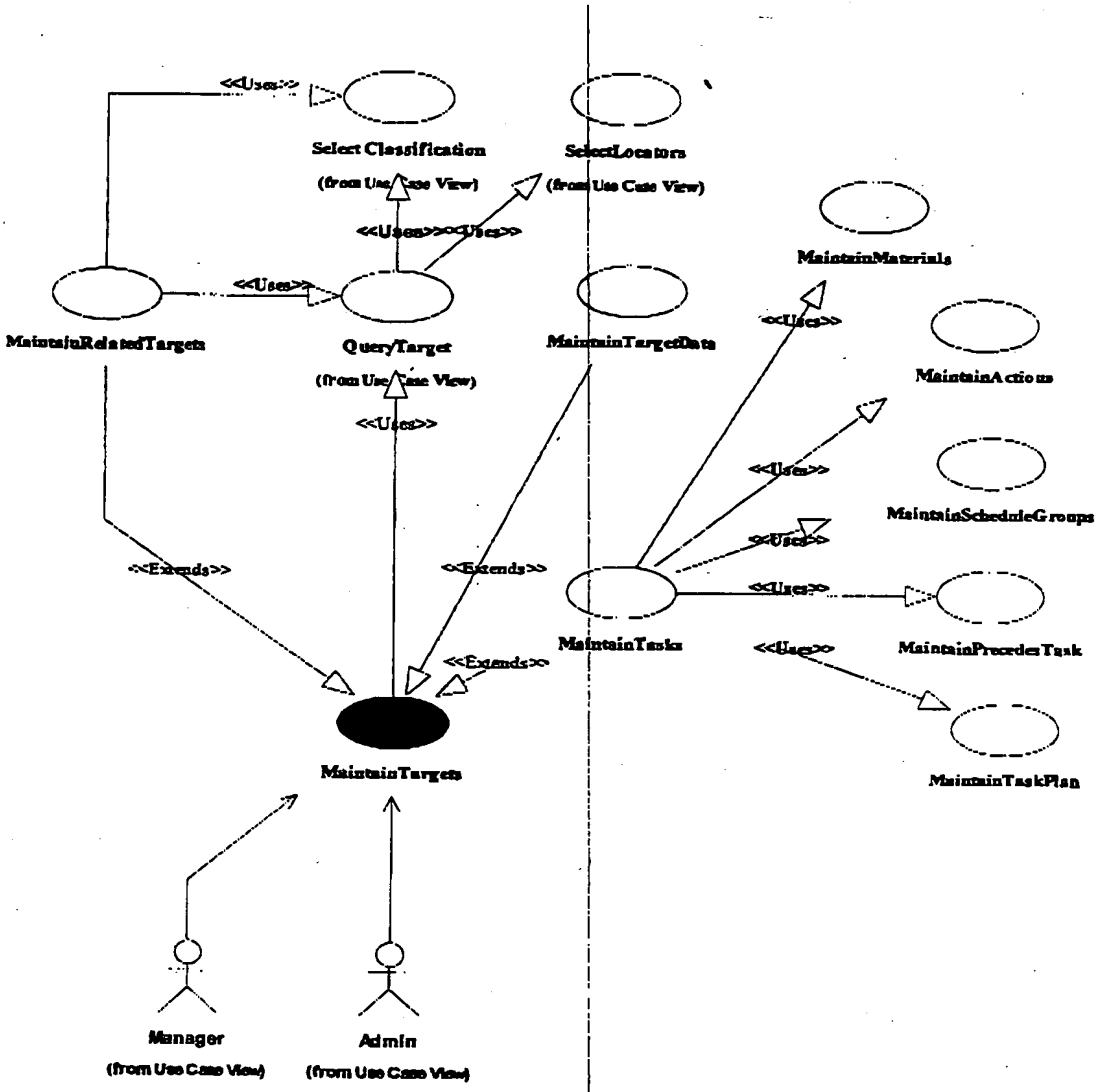
<<Uses>>
Select Classification
(from Use Case View)
SelectLocators
(from Use Case View)
<<Uses>>
<<Uses>>
<<Uses>>
MaintainRelatedTargets
QueryTarget
(from Use Case View)
MaintainTargetData
MaintainMaterials
<<Uses>>
MaintainActions
<<Uses>>
MaintainScheduleGroups
<<Uses>>
<<Extends>>
<<Extends>>
<<Uses>>
MaintainTasks
<<Uses>>
MaintainPrecedesTask
<<Extends>>
MaintainTaskPlan
MaintainTargets
Manager
(from Use Case View)
Admin
(from Use Case View)

FIG. 11

Cleanup Algorithm

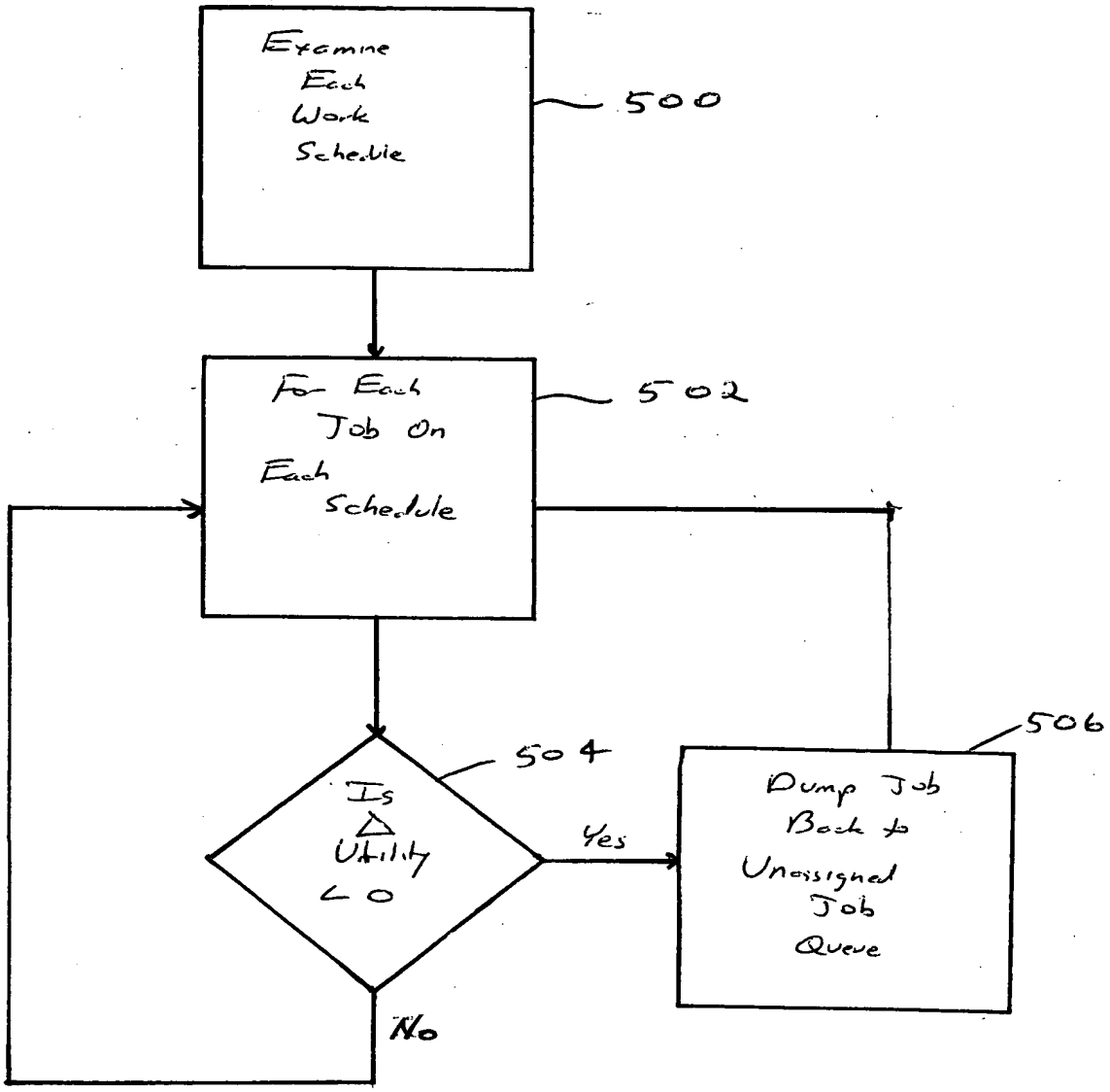

FIG. 12

Brute Force Scheduling Algorithm

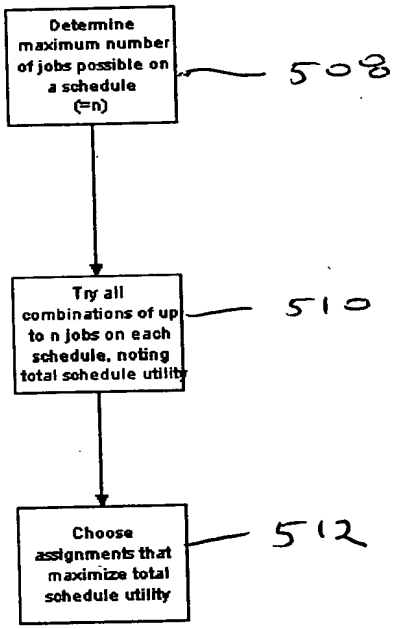

FIG. 13

Reschedule

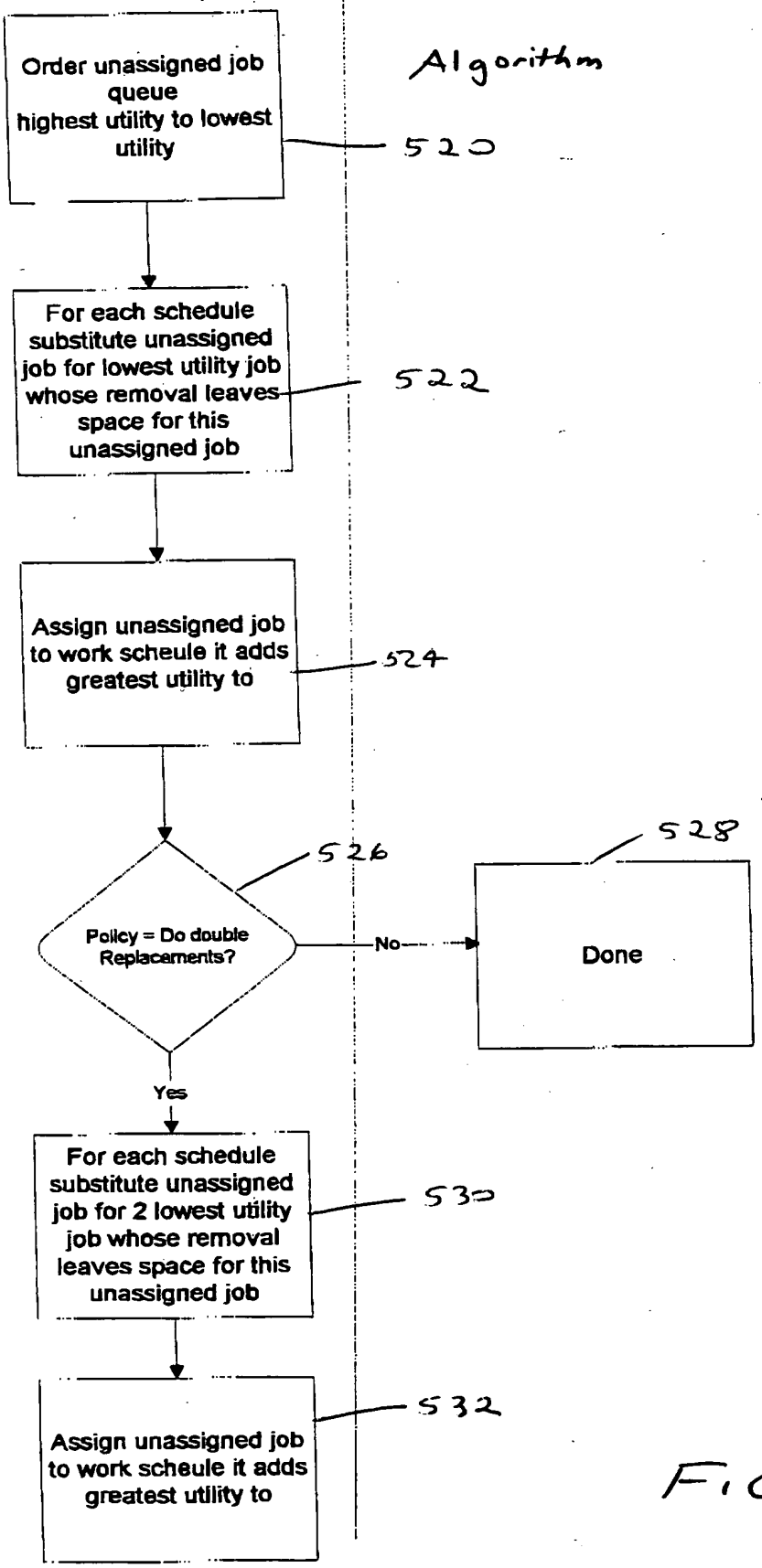

FIG. 14

Round Robin Scheduling Algorithm

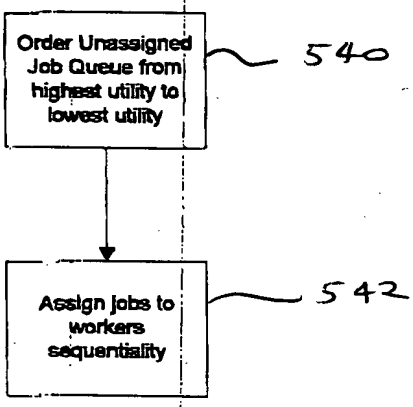

FIG. 15a

Utility Increase Algorithm

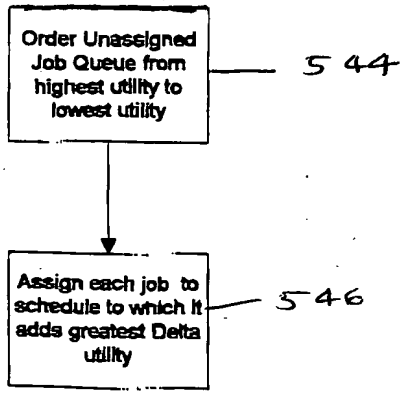

FIG 15b

Utility Decrease Algorithm

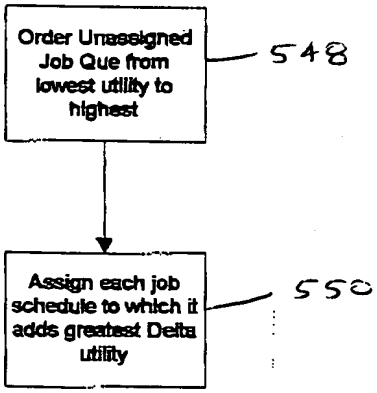

FIG. 15c

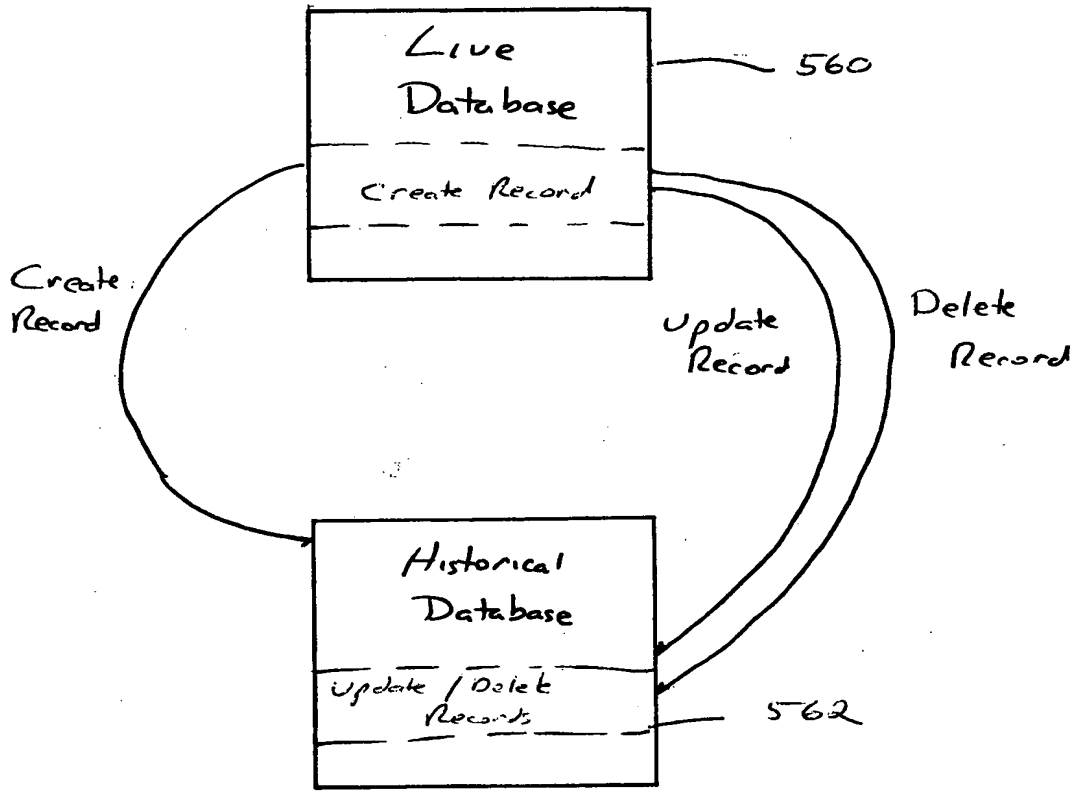
Live
Database
560
Create Record
Create
Record
Update
Record
Delete
Record
Historical
Database
Update / Delete
Records
562

FIG. 16

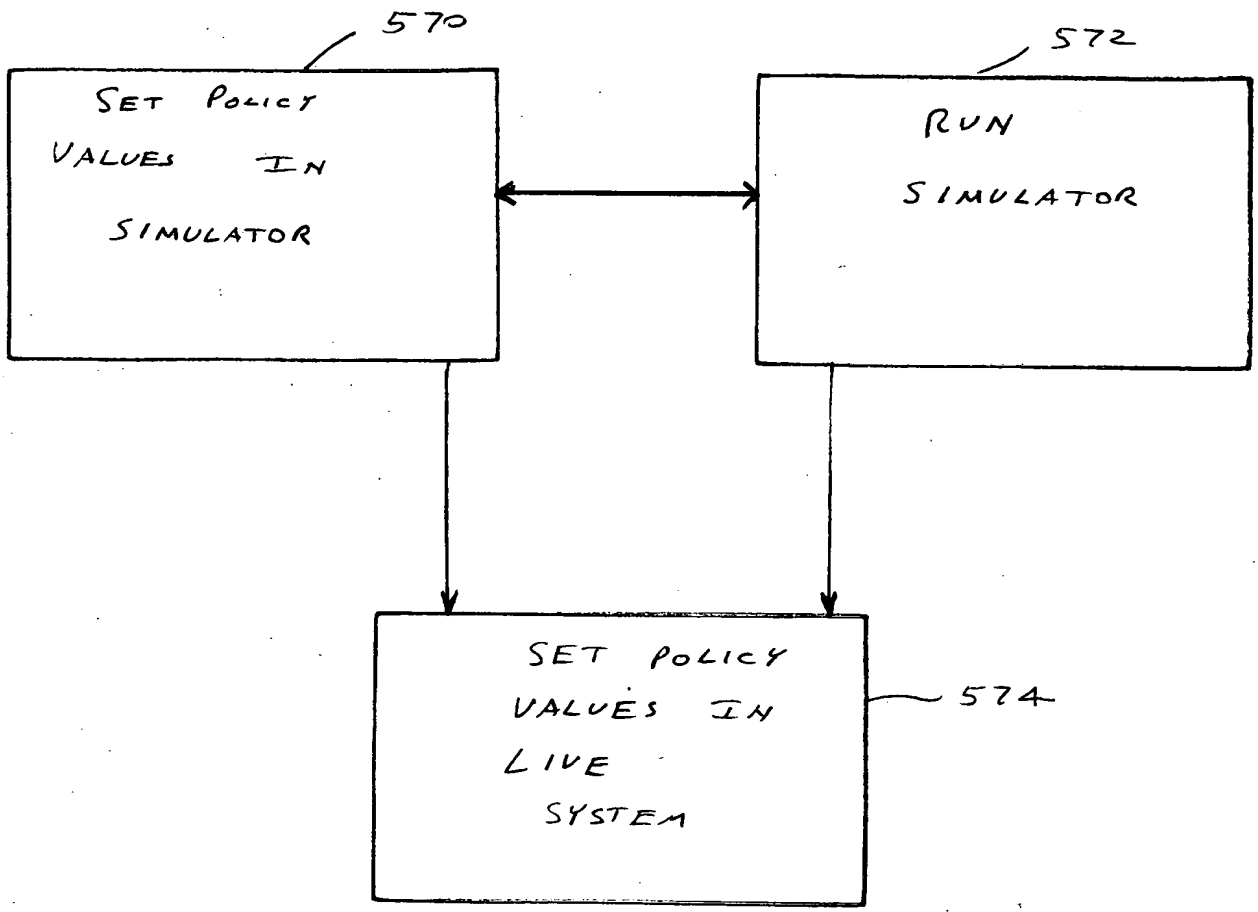
570
SET POLICY VALUES IN SIMULATOR
572
RUN SIMULATOR
SET POLICY VALUES IN LIVE SYSTEM
574

FIG. 17